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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

NOTE, JANIS L

| ART UNIT | PAPER NUMBER |
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1756

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/707,000

Applicant(s)

TOMITA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-27 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4, 6-9 and 12-27 is/are rejected.  
7) ☒ Claim(s) 10 and 11 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/14/03; 8/17/04; 11/15/04; 11/17/04; 12/14/04; 3/23/05  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

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1. The examiner acknowledges the amendments to claims 1, 6, 21, and 22, the cancellation of claim 5, and the addition of claims 23-27. Claims 1-4 and 6-27 are pending.

2. The examiner has considered only the material submitted by applicants, i.e., copies of the originally filed claims, abstract, and drawings of the US applications listed on the "List of related cases" in the Information Disclosure Statement (IDS) filed on Nov. 11, 2003.

The examiner has considered the US application listed on the "List of related cases" in the IDS filed on Nov. 15, 2004, and Dec. 14, 2004.

The US application 10/849,857 listed on the "List of related cases" in the Information Disclosure Statement filed on Aug. 17, 2004, has been crossed-out by the examiner. Applicants did not provide a legible copy of those portions of the copending U.S. application which caused it to be listed, as requested in the office action mailed on Nov. 12, 2004, paragraph 2. (The examiner notes that the copending application 10/849,857 has been cited in the judicially created doctrine of obviousness-type double patenting rejection set forth in the office action mailed on Nov. 12, 2004, paragraph 17.)

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3. The objection to the specification set forth in the office action mailed on Nov. 12, 2004, paragraph 3, item (2), has been withdrawn in response to the amended paragraph filed on Feb. 8, 2005, beginning at page 56, line 17.

The objection to the specification set forth in the office action mailed on Nov. 12, 2004, paragraph 4, has been withdrawn in response to the amended paragraph filed on Feb. 8, 2005, beginning at page 7, line 5.

The rejection of claims 21 and 22 under 35 U.S.C. 102(e) over US 5,430,526 (Ohkubo), set forth in the office action mailed on Nov. 12, 2004, paragraph 8, has been withdrawn in response to the amendments filed on Feb. 8, 2005, to claims 21 and 22, adding the limitation that the "developing device contains said developer." Ohkubo does not teach or suggest an image forming apparatus or a process cartridge that comprises a developing device that comprises the particular toner recited in the instant claims.

The rejection of claims 1-3, 11, and 20 under 35 U.S.C. 102(b)/103(a) over US 5,328,795 (Yamashiro), set forth in the office action mailed on Nov. 12, 2004, paragraph 11, has been withdrawn in response to the amendment filed on Feb. 8, 2005, to claim 1, adding the limitation of now-cancelled claim 5 that the toner satisfies the dimensional relationships now

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recited in instant claim 1. Yamashiro teaches deformed spherical toner having a "deforming ratio" of 0.8. See Table 3 at col. 26, example 1. The deforming ratio is defined as the ratio of the minor axis to the major axis of the toner particles. Col. 14, lines 50-53. The deforming ratio of 0.8 is within the range of  $0.5 \leq r_2/r_1 \leq 0.8$  recited in instant claim 1, where  $r_2$  is the average minor axis toner particle diameter and  $r_1$  is the average major axis toner particle diameter. However, there is not enough information in the reference to determine whether the Yamashiro toner particles meet (a) the ratio  $0.7 \leq r_3/r_2 \leq 1.0$  recited in instant claim 1, where  $r_3$  is the average thickness of the toner particle; or (b) the relationship  $r_3 \leq r_2 < r_1$ , recited in instant claim 1.

The rejection of claims 1 and 18-21 under 35 U.S.C. 102(b)/103(a) over Japanese Patent 2000-172005 (JP'005), set forth in the office action mailed on Nov. 12, 2004, paragraph 12, has been withdrawn in response to the amendment filed on Feb. 8, 2005, to claim 1 described supra. JP'005 teaches elliptically shaped toner particles having an ellipticity of 0.61-0.72, where the ellipticity is defined as the ratio of the minor axis diameter of the ellipse to the major axis diameter of the ellipse. Japanese Patent Office (JPO) translation, paragraph 0011, and Table 3, example 1. The

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ellipticity of 0.61-0.72 is within the range of  $0.5 \leq r_2/r_1 \leq 0.8$  recited in instant claim 1, where  $r_2$  is the average minor axis toner particle diameter and  $r_1$  is the average major axis toner particle diameter. An ellipsoid is defined by three semiaxes. JP'005 does not disclose the length of the third axis, i.e., the thickness, of the toner particle. There is not enough information in the reference to determine whether the JP'005 toner particles meet (a) the ratio  $0.7 \leq r_3/r_2 \leq 1.0$  recited in instant claim 1, where  $r_3$  is the average thickness of the toner particle; or (b) the relationship  $r_3 \leq r_2 < r_1$ , recited in instant claim 1.

The rejection of claims 1, 4, 12-14, and 21 under the judicially created doctrine of obviousness-type double patenting over claims 1-6, 8-13, 19, and 20 of copending Application No. 10/286,816 (Application'816), set forth in the office action mailed on Nov. 12, 2004, paragraph 15, has been withdrawn in response to the amendment filed on Feb. 8, 2005, to claim 1 as described supra. The claims of Application'816 do not recite that the toner particles have an average major axis diameter, an average minor axis particle diameter, and an average thickness that satisfy the ratios and inequalities recited in instant claim 1.

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4. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g. Hansa Yellow [sic: HANSA yellow], and Lithol Rubine GX [sic: LITHOL Rubine GX] at page 41, lines 11, 13, and 22, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

Applicants' arguments filed on Feb. 8, 2005, have been fully considered but they are not persuasive.

Applicants assert that the objection is moot in view of the amendment to the specification filed on Feb. 8, 2005. However, as noted in the objection above, the amendment to the specification filed on Feb. 8, 2005, did not capitalize all the trademarks disclosed in the instant specification.

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5. Applicants are advised that should claims 2, 23, and 24 be found allowable, claims 25-27 will be objected to under 37 CFR 1.75 as being substantial duplicates respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claims 25-27 recite all the limitations recited in instant claims 2, 23, and 24, but for the phrase "toner has such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane." However, claims 25-27 recite the same dimensional relationships,  $0.5 \leq r_2/r_1 \leq 0.8$ ,  $0.7 \leq r_3/r_2 \leq 1.0$ , and  $r_3 \leq r_2 < r_1$ , recited in instant claims 2, 23, and 24, where  $r_1$  is the average major axis toner particle diameter,  $r_2$  is the average minor axis toner particle diameter, and  $r_3$  is the average thickness of the toner particle. Because  $r_2$  is always less than  $r_1$ , claims 25-27 meet the rolling property limitation recited in instant claims 2, 23, and 24. Therefore, claims 25-27 cover the same subject matter recited in instant claims 2, 23, and 24.



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6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. US 2003/0152859 A1 (Emoto'859) was published on Aug. 14, 2003, and has an effective filing date of Nov. 4, 2002. The inventive entity of Emoto'859 is not the same as the instant application. Accordingly, Emoto'859 qualifies as prior art under 35 U.S.C. 102(a) and under 35 U.S.C. 102(e).

8. Claims 1-4, 6-9, 12-21, and 23-27 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 2003/015289 A1 (Emoto'859), as evidenced by applicants' admission in instant specification at page 15, lines 13-14, at page 12, line 15, to page 13, line 10, and at page 18, line 6, to page 20, line 3.

Emoto'859 discloses a toner that comprises toner particles. The toner particles comprise a binder resin and a colorant. The binder resin comprises a modified polyester resin and an unmodified polyester that are present in a weight ratio (modified to unmodified) of about 0.31, which is within the ratio range of 5/95 to 80/20 recited in instant claim 15. See example 4 at page 12. The toner particles further comprise a charge control agent fixed on the surface of the toner particles

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in an amount of 0.25 parts by weight per 100 parts by weight of toner particles, and externally added hydrophobic silica and titanium oxide. Paragraphs 0129-0130 and paragraph 0147, lines 17-18. The binder resin has a peak molecular weight of 6,500, which is within the molecular weight range of 1,000 to 10,000 recited in instant claim 16. See Table 1 at page 14, example 4. The toner has a glass transition temperature  $T_g$  of 49°C, which is within the  $T_g$  range recited in instant claim 17. Table 1, example 4. The toner particles meet the compositional limitations recited in instant claims 1-3, 12, 15-19 and 23-27. The toner particles are obtained by process steps that meet the steps recited in instant claims 13 and 14. See example 4. The toner has an SF-2 of 115 which is within the range of 100 to 190 recited in instant claim 9. Table 2 at page 14, example 4. The toner has a spindle form and a volume average particle size of 4.9  $\mu\text{m}$ . Paragraph 0147, lines 12-13, and Table 2, example 4. The volume average particle size meets the particle size limitation recited in instant claims 4, 23, and 26. The spindle form meets the form limitation recited in instant claims 4, 23, and 26.

Emoto'859 further discloses that the toner can be used in a developer comprising a carrier. Paragraph 0114. Emoto'859 also discloses an imaging apparatus comprising the structural

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components recited in instant claim 21. Fig. 1, and paragraph 0117.

Emoto'859 does not disclose that the toner has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claims 1, 23, and 24. However, as discussed above, the toner disclosed by Emoto'859 has a spindle form that meets the shape limitation recited in instant claims 4, 23, and 26. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction. Namely, the toner rolls while its major axis . . . is a rotation axis." Thus, it is reasonable to presume that the toner disclosed in Emoto'859 has the property recited in instant claims 1, 23, and 24. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Emoto'859 does not further disclose that the toner satisfies the dimensional relationships recited in instant claims 1, 23, 25, and 26. Nor does Emoto'859 disclose that the toner particles have the dimensional limitations recited in instant claims 6-8, 24, and 27. However, as discussed above, the toner disclosed by Emoto'859 has a spindle form that meets the shape limitation recited in instant claims 4, 23, and 26.

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Furthermore, the instant specification at page 12, lines 18-25, discloses that when the ratio  $r_2/r_1$  is too small, the dot reproducibility and transfer efficiency deteriorate; if the ratio  $r_2/r_1$  is too large, the toner has a "form near the spherical form and therefore the cleaning problem tends to occur." The instant specification at page 12, line 25, to page 13, line 4, also discloses that if the ratio  $r_3/r_2$  is too small, the toner is inferior to a spherical toner in transferability, and when the ratio  $r_3/r_2$  is 1.0, the "toner easily rolls while the major axis is the rotation axis." The instant specification discloses that when the average major axis particle diameter  $r_1$  is too small or the average minor axis particle diameter  $r_2$  is too large, "the cleanability of the toner deteriorates and it becomes difficult to perform cleaning with a cleaning blade." Specification, page 18, lines 12-14, and page 19, lines 1-4. The instant specification at page 18, lines 15-22, discloses that when the average major axis particle diameter  $r_1$  is too large, "there is a possibility that the toner is pulverized when the toner is mixed with a magnetic carrier. When the thus produced fine toner particles are adhered to a magnetic carrier, other toner particles are prevented from being frictionalized by the carrier, resulting in broadening of the charge quantity distribution of the toner. Therefore, background

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development is caused." The instant specification at page 18, lines 24, to page 1, discloses that when the average minor axis particle diameter  $r_2$  is too small, the resultant toner has poor fine dot reproducibility and low transfer rate (i.e., poor transferability), and also tends to be easily pulverized when mixed with a magnetic carrier. The instant specification discloses that when the thickness  $r_3$  is less than 2  $\mu\text{m}$ , the toner tends to be easily pulverized when mixed with a magnetic carrier; and when the thickness  $r_3$  is greater than 6  $\mu\text{m}$ , the "toner has a form near the spherical form and therefore the fogging problem tends to occur when the toner is used for electrostatic developing and electrostatic transferring." The instant specification at page 19, lines 19-23, discloses that when the standard deviations of  $r_1$ ,  $r_2$ , and  $r_3$  are "too large (i.e., the toner has variation in it [sic: its] form), there are many variations in the behavior of the toner during developing, transferring and cleaning process, resulting in deterioration of the image qualities." The instant specification at page 19, line 27, to page 20, line 3, discloses that when the content of the toner particles having a thickness greater than 3  $\mu\text{m}$  is too high, "the toner is similar to a flat toner, and therefore fine dot reproducibility and transferability of the toner deteriorates." The Emoto'859 toner in example 4 exhibits good

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cleanability, dot reproducibility, transferability, and image qualities. See Emoto'859, Table 3 at page 15, example 4. The Emoto'859 toner exhibits the properties sought by applicants. Accordingly, because the Emoto'859 toner has a spindle form and appears to exhibit the properties sought by applicants, it is reasonable to presume that the Emoto'859 toner satisfies the dimensional relationships recited in instant claims 1, 23, 25, and 26, and the dimensional limitations recited in instant claims 6-8, 24, and 27. The burden is on applicants to prove otherwise. Fitzgerald, supra.

9. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,430,526 (Ohkubo) combined with Emoto'859.

Ohkubo discloses an electrophotographic image forming apparatus that meets the structural components recited in instant claim 21. Fig. 1 and col. 2, line 56, to col. 3, line 56. The apparatus shown in Fig. 1 comprises an electrophotographic sensitive member 3, i.e., a photoconductor, a developing unit 5, a transfer unit 7, and a cleaning unit 8. Ohkubo also discloses a process cartridge that meets the structural components recited in instant claim 22. Fig. 2 and col. 3, line 65, to col. 4, line 8. The process cartridge shown

in Fig. 2 comprises the photosensitive member 4 and the developing device 5.

Ohkubo does not exemplify the particular toner recited in the instant claims. However, Ohkubo does not limit the type of toner used.

Emoto'859 discloses a toner that meets the toner limitations recited in instant claims 21 and 22. The discussion of Emoto'859 in paragraph 8 above is incorporated herein by reference. As discussed in paragraph 8, Emoto'859 discloses that the toner in example 4 exhibits good cleanability, dot reproducibility, transferability, and image qualities. See Emoto'859, Table 3 at page 15, example 4.

It would have been obvious for a person having ordinary skill in the art to use the Emoto'859 toner as the toner in the image forming apparatus and process cartridge disclosed by Ohkubo, because that person would have had a reasonable expectation of successfully obtaining an electrophotographic image forming apparatus and process cartridge that provide images with good dot reproducibility and image qualities.

10. Claims 1, 6, and 18-21 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese patent 2003-295494 (JP'494). See the

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Japanese Patent Office (JPO) machine-assisted translation of JP'494 for cites.

JP'494 discloses a developer comprising a carrier and a toner comprising ellipsoidal toner particles comprising a binder resin and a colorant. The toner particles further comprise an externally added hydrophobic silica. JPO translation, paragraphs 0140 and 0141; and example 4 in paragraph 0152. The ellipsoidal toner particles are defined by a major axis particle diameter (a) and two minor axis particle diameters (b) and (c). See JP'494, Fig. 3, and JPO translation, paragraph 0035. JP'494 discloses that the two minor axes (b) and (c) can be equal. JPO translation, claim 2 and paragraph 0155. In example 4, the ellipsoidal toner particles average major axis particle diameter (a) is 7.2  $\mu\text{m}$  and the average minor axis particle diameters (b) and (c) are 4.8  $\mu\text{m}$ . The JP'494 average major axis, (a), i.e.,  $r_1$ , is within the average major axis particle diameter  $r_1$  range 5 to 9  $\mu\text{m}$  recited in instant claim 6. The JP'494 two average minor axes (b) and (c), i.e.,  $r_2$  and  $r_3$ , respectively, are within the ranges of the average minor axis particle diameter  $r_2$  and the average thickness  $r_3$  of 2 to 6  $\mu\text{m}$  recited in instant claim 6. The ratio of the JP'494 average minor axis (b) to the JP'494 average major axis (a) is 0.67, which is within the range of 0.5 to 0.8 recited in instant



claim 1. The ratio of the JP'494 average axis (c) to the JP'494 average axis (b) is 1.0, which is within the range of 0.7 to 1.0 recited in instant claim 1. The JP'494 average axes (a), (b), and (c) meet the relationship  $r_3 \leq r_2 < r_1$  recited in instant claim 1. The developer also meets the compositional limitations recited in instant claims 1 and 18-20.

JP'494 further discloses an image forming apparatus that meets the structural limitations recited in instant claim 21. JP'494, Fig. 5, reference signs 21, 24, 29, 30, 31, and 36; and the JPO translation, paragraphs 0018-0022 and 0030-0032, and the description of drawings.

JP'494 does not recite that the toner has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed supra, the JP'494 ellipsoidal toner particles meet the particle diameter relationships recited in instant claim 1. The JP'494 ellipsoidal toner particles' average major axis particle diameter (a) is 7.2  $\mu\text{m}$  and the average minor axis particle diameters (b) and (c) are 4.8  $\mu\text{m}$ . Thus, because the toner particles disclosed by JP'494 have a minor axis and a major axis and meet the particle diameter relationship recited in instant claim 1, it is reasonable to presume that the toner disclosed by

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JP'494 has the property recited in instant claim 1. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

11. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkubo combined with JP'494. See the JPO translation of JP'494 for cites.

Ohkubo discloses an electrophotographic image forming apparatus and a process cartridge that meets the structural components recited in instant claims 21 and 22, but for the presence of the particular toner recited in the instant claims. The discussion of Ohkubo in paragraph 9 above is incorporated herein by reference.

Ohkubo does not exemplify the particular toner recited in the instant claims. However, Ohkubo does not limit the type of developer used.

JP'494 discloses an ellipsoidal toner that meets the toner limitations recited in instant claims 21 and 22. The discussion of JP'494 in paragraph 10 above is incorporated herein by reference. JP'494 further discloses that the ellipsoidal toner that remains on the photoconductor after the toner image formed on the photoconductor is transferred to a receiving member can be efficiently cleaned and provides toner images without image

defects due to faulty cleaning of the photoconductor.

Translation, paragraphs 0005 and 0152.

It would have been obvious for a person having ordinary skill in the art to use the JP'494 developer as the developer in the image forming apparatus and process cartridge disclosed by Ohkubo, because that person would have had a reasonable expectation of successfully obtaining an electrophotographic image forming apparatus and process cartridge that efficiently remove toner remaining on the photoconductor after image transfer to provide toner images without image defects due to faulty cleaning of the photoconductor.

12. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'494. See the JPO translation of JP'494 for cites.

JP'494 discloses a developer as described in paragraph 10 above, which is incorporated herein by reference.

JP'494 does not exemplify a toner comprising a binder resin as recited in the instant claims. However, JP'494 teaches that the binder resin can be an urea-modified polyester resin combined with a non-modified polyester resin in a preferred weight ratio of 7/93 to 80/20. Translation, paragraphs 0106, 0107, and 0109. The binder resin meets the binder resin

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compositional limitations recited in instant claims 12 and 15. According to JP'494, when the combination of the urea-modified polyester resin and the non-modified polyester resin is used as the toner binder resin, the toner exhibits low-temperature fixing and hot anti-offset resistance, and provides toner images with improved glossiness. Translation, paragraphs 0107 and 0109.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of JP'494, to use the combination of the urea-modified polyester resin and the non-modified polyester resin as taught by JP'494 as toner binder resin in JP'494 toner in example 4 because that person would have had a reasonable expectation of successfully obtaining a toner that exhibits low-temperature fixing and hot anti-offset resistance, and provides toner images with improved glossiness as disclosed by JP'494.

Instant claims 13 and 14 are written in product-by-process format. JP'494 does not appear to disclose that the toner is obtained by the process steps recited in instant claims 13 and 14. However, as discussed supra, the toner rendered obvious over the teachings of JP'494 meets the toner limitations recited in instant claim 12, from which claims 13 and 14 depend. Thus, it appears that the toner rendered obvious over the teachings of

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JP'494 is the same or substantially the same as the toner made by the process limitations recited in the instant claims. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983) and In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985). MPEP 2113.

13. Claims 2, 3, 24, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'494 combined with US 6,140,000 (Yamashita). See the JPO translation of JP'494 for cites.

JP'494 discloses a developer as described in paragraph 10 above, which is incorporated herein by reference.

JP'494 does not disclose that the ellipsoidal toner particles comprise a charge controlling agent on the surface of the toner particles as recited in instant claims 2, 3, 24, 25, and 27. JP'494 discloses that a charge controlling agent may be contained within the toner particles. Translation, paragraph 0079.

However, Yamashita discloses that the "charging properties of a toner largely depend on the materials of the surface part of the toner. In other words, the charge controlling agent, which is dispersed inside the toner, has little effect on the charge properties of the toner. In addition, charge controlling

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agents are generally expensive. Therefore, a need exists for charge controlling agents which are preferably included on only the surface part of toners." Col. 1, lines 58-64. Yamashita teaches a low-cost method of fixing a charge controlling agent on the surface of the toner particles. The method comprises the steps of dispersing primary particles, i.e., toner particles, comprising a resin and a colorant in a liquid comprising a dispersant where the liquid does not dissolve the resin; dispersing the charge controlling agent in the dispersion comprising the toner particles; heating and then cooling the dispersion; washing the resultant particles; and drying the washed particles. Col. 5, lines 24-26, and col. 14, line 51, to col. 15, line 4. The charge controlling agent can be present in an amount not greater than about 1% by weight based on the weight of the toner particles. Col. 10, lines 17-18 and 25-26. According to Yamashita, when the amount of the charge controlling agent is not greater than 1% by weight based on the weight of the toner particles, "fogging and omission of transferred character images can be avoided." Col. 10, lines 19-20. The upper limit, "1% by weight," of the Yamashita amount is within the range of 0.2 and 2.0% by weight based on the total weight of the toner recited in instant claims 3, 24 and 27. The Yamashita range of "not greater than 1% by weight"

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of toner particles overlaps the range recited in the instant claims. Yamashita further discloses that the resultant toner maintains good charge properties even when used for a long time. Col. 5, lines 17-20.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Yamashita, to fix a charge controlling agent on the surface of the JP'494 ellipsoidal toner particles in example 4 in the low-cost method taught by Yamashita, because that person would have had a reasonable expectation of successfully obtaining a toner that comprises the expensive charge control agent in an amount smaller than when the charge controlling agent is dispersed in the toner particles, and that maintains good charge properties even when used for a long time.

14. The following are provisional obviousness-type double patenting rejections because the conflicting claims have not in fact been patented.

15. Claims 1, 4, 12-15, 18, and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 and 27, copending Application No. 10/670,320 (Application'320), as

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evidenced by applicants' admission in the instant specification at page 15, lines 13-14.

The claims are rejected for the reasons discussed in the office action mailed on Nov. 12, 2004, paragraph 16, which are incorporated herein by reference.

16. Claims 1, 4, 6-9, 21, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-14 of copending Application No. 10/849,857 (Application'857), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14.

The claims are rejected for the reasons discussed in the office action mailed on Nov. 12, 2004, paragraph 17, which are incorporated herein by reference.

17. Claims 1, 4, 9, 18, 21, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 10/820,726 (Application'726), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14.



The claims are rejected for the reasons discussed in the office action mailed on Nov. 12, 2004, paragraph 18, which are incorporated herein by reference.

18. Claims 1, 4, 12-16, 20, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11, 13, 14, and 17, of copending Application No. 10/724,150 (Application'150), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14.

The claims are rejected for the reasons discussed in the office action mailed on Nov. 12, 2004, paragraph 20, which are incorporated herein by reference.

19. Claims 1, 4, 12-14, and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15, of copending Application No. 10/724,260 (Application'260), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14.

The claims are rejected for the reasons discussed in the office action mailed on Nov. 12, 2004, paragraph 21, which are incorporated herein by reference.

20. The rejection over Application No. 10/760,452 set forth in the office action mailed on Nov. 12, 2004, paragraph 19, has been replaced with the rejection set forth infra.

Claims 1, 20, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 and 22, of copending Application No. 10/760,452 (Application'452).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'452 renders obvious the toner and the process cartridge recited in the instant claims.

Reference claim 13, which depends from reference claim 12, which in turn depends from reference claim 1, covers a toner comprising toner particles comprising a binder resin. The toner particles are ellipsoidal having an average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the ratios recited in instant claim 1. Reference claim 13 does not explicitly recite that  $r_3 \leq r_2 < r_1$ . However, because the ratio  $r_2/r_1 \leq 0.8$  and the ratio  $r_3/r_2 \leq 1.0$ , then  $r_3 \leq r_2$  and  $r_2 < r_1$ . Thus, the

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parameters recited in reference claim 17 meet the limitation that  $r_3 \leq r_2 < r_1$ .

The claims of Application' 452 do not recite that the toner recited in reference claim 13 has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner particles recited in reference claim 13 meet the relationships recited in instant claim 1. The toner particles have an ellipsoidal shape, where the major axis  $r_1$  is larger than the minor axis  $r_2$ . Thus, it is reasonable to presume that the toner particles recited in reference claim 13 have the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Reference claim 2, which depends from reference claim 1, requires that the toner comprise a coloring agent. Reference claim 16 covers a two-component developer comprising a carrier and a toner that is identical to the toner recited in reference claim 1.

Reference claim 22 covers a process cartridge that meets the structural limitations recited in instant claim 22. The developing unit recited in reference claim 22 contains a toner that is identical to the toner recited in reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Application'452, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner, a two-component developer, and a process cartridge that are capable of providing toned images in an electrophotographic process.

21. Applicants' arguments filed on Feb. 8, 2005, with respect to the rejections set forth in paragraphs 15-20 above have been fully considered but they are not persuasive.

Applicants request that the provisional rejections be held in abeyance because none of the Applications have been allowed.

Applicants did not provide any reasons as to why the claimed subject matter is patentable over the claims in the cited US applications. Accordingly, the rejections set forth in paragraphs 15-20 above stand.

Furthermore, the examiner notes that a terminal disclaimer must be required in the instant application, when the obviousness-type double patenting (ODP) rejection is over an earlier filed application before the ODP rejection can be withdrawn. See MPEP 1490, page 1400-95 (8<sup>th</sup> edition, Rev. 2, May 2004).

22. Claims 2, 3, 23, 25, and 26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 and 27, copending Application No. 10/670,320 (Application'320), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14, combined with Yamashita.

The subject matter recited in the claims of Application'320 renders obvious a toner as described in paragraph 15 above, which is incorporated herein by reference.

The claims of Application'320 do not recite the presence of a charge controlling agent on the surface of the toner particles as recited in instant claims 2, 3, 23, 25, and 26.

Yamashita teaches a low-cost method of fixing a charge controlling agent on the surface of toner particles. Yamashita further discloses the benefits of fixing a charge controlling agent on the surface of toner particles. The discussion of Yamashita in paragraph 13 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Yamashita, to fix a charge controlling agent on the surface of the toner particles rendered obvious over the subject matter recited in the claims

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of Application'320 in the low-cost method taught by Yamashita, because that person would have had a reasonable expectation of successfully obtaining a toner that comprises the expensive charge control agent in an amount smaller than when the charge controlling agent is dispersed in the toner particles, and that maintains good charge properties even when used for a long time.

23. Claims 2, 3, and 23-27 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-14 of copending Application No. 10/849,857 (Application'857), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14, in view of Yamashita.

The subject matter recited in the claims of Application'857 renders obvious a toner as described in paragraph 16 above, which is incorporated herein by reference.

The claims of Application'857 do not recite the presence of a charge controlling agent on the surface of the toner particles as recited in instant claims 2, 3, and 23-27.

Yamashita teaches a low-cost method of fixing a charge controlling agent on the surface of toner particles. Yamashita further discloses the benefits of fixing a charge controlling agent on the surface of toner particles. The discussion of

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Yamashita in paragraph 13 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Yamashita, to fix a charge controlling agent on the surface of the toner particles rendered obvious over the subject matter recited in the claims of Application'857 in the low-cost method taught by Yamashita, because that person would have had a reasonable expectation of successfully obtaining a toner that comprises the expensive charge control agent in an amount smaller than when the charge controlling agent is dispersed in the toner particles, and that maintains good charge properties even when used for a long time.

24. Claims 1, 2, 4, 12-19, 22, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 and 23 of copending Application No. 10/712,026 (Application'026), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'026 renders obvious

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the toner and the process cartridge recited in the instant claims.

Reference claim 16, which depends from reference claim 1, recites a toner comprising toner particles comprising a binder resin and a colorant, and particles of a charge control agent and an external additive on the surface of the toner particles. The toner particles have a spindle form, which meets the toner form limitation recited in instant claim 4. The toner meets the compositional limitations recited in instant claims 1, 2, and 25. Reference claim 17, which depends on reference claim 16, recites that the toner particle has an average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the ratios recited in instant claims 1 and 25. Reference claim 17 does not explicitly recite that  $r_3 \leq r_2 < r_1$ . However, because the ratio  $r_2/r_1 \leq 0.8$  and the ratio  $r_3/r_2 \leq 1.0$ , then  $r_3 \leq r_2$  and  $r_2 < r_1$ . Thus, the parameters recited in reference claim 17 meet the limitation that  $r_3 \leq r_2 < r_1$ . Reference claim 14, which depends on reference claim 1, requires that the toner have a volume average particle size of 3.0 to 8.0  $\mu\text{m}$ , which meets the toner particle size limitation recited in instant claim 4.

The claims of Application'026 do not recite that the toner recited in reference claims 16 and 17 has "such a rolling



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property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner particles recited in reference claims 16 and 17 meet the spindle form recited in instant claim 4 and the relationships recited in instant claim 1. The toner particles have a major axis  $r_1$  that is larger than the minor axis  $r_2$ . The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner particles recited in reference claims 16 and 17 have the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Reference claim 11, which depends from reference claim 8, which depends in turn from reference claim 1, requires that the binder resin comprise a modified polyester and an un-modified polyester in a weight ratio of 5:95 to 80:20, which meets the binder compositional limitations recited in instant claims 12 and 15. Reference claims 9 and 10, which depend from reference claim 8, recite that the toner is obtained by process steps that meet the process steps recited in instant claims 13 and 14. Reference claim 12, which depends from reference claim 8, further requires that the binder resin have a peak molecular

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weight of from 1,000 to 10,000, which meets the binder limitation recited in instant claim 16. Reference claim 13, which depends from reference claim 8, requires that the toner have a glass transition temperature  $T_g$  of 40 to 70°C, which meets the  $T_g$  range recited in instant claim 17. Reference claim 18, which depends from reference claim 1, requires that the external additive be either hydrophobized silica or hydrophobized titanium oxide, which meets the external additive limitation recited in instant claim 19.

Reference claim 23 covers a process cartridge that meets the structural limitations recited in instant claim 22. The developing device recited in reference claim 23 is configured to develop the electrostatic latent image with a developer comprising the toner as recited in reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Application'026, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining both a toner and a process cartridge that are capable of providing toned images in an electrophotographic process.

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25. Claims 1, 4, 12-15, 21, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13, 17, and 18 of copending Application No. 10/733,247 (Application'247), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14, in view of Diamond, Handbook of Imaging Materials, pp. 168-169 (Diamond).

Reference claim 11, which depends from reference claim 1, covers a toner comprising toner particles comprising a binder resin comprising a modified polyester resin, wherein the toner particles have a spindle form. The toner is obtained by process steps that meet the process steps recited in instant claims 13 and 14. The spindle form meets the toner form limitation recited in instant claim 4. The toner meets the compositional limitations recited in instant claim 12. Reference claim 12, which depends on reference claim 11, recites that the toner particle has an average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the ratios recited in instant claim 1. Reference claim 12 does not explicitly recite that  $r_3 \leq r_2 < r_1$ . However, because the ratio  $r_2/r_1 \leq 0.8$  and the ratio  $r_3/r_2 \leq 1.0$ , then  $r_3 \leq r_2$  and  $r_2 < r_1$ . Thus, the parameters recited in reference claim 12 meet the limitation

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that  $r_3 \leq r_2 < r_1$ . Reference claim 9, which depends on reference claim 1, requires that the toner have a volume average particle size of 4.0 to 8.0  $\mu\text{m}$ , which meets the toner particle size limitation recited in instant claim 4.

The claims of Application'247 do not recite that the toner recited in reference claims 11 and 12 has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner particles recited in reference claims 11 and 12 have a spindle form that meets the spindle limitation recited in instant claim 4 and the dimension relationships recited in instant claim 1. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner particles recited in reference claims 11 and 12 have the property recited in instant claim 1. The burden is on applicants to prove otherwise.

Fitzgerald, supra.

Reference claim 3, which depends from reference claim 1, requires that the binder resin further comprise an un-modified polyester where the modified polyester resin and the unmodified polyester are present in a weight ratio of 5:95 to 75:25, which

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overlaps the weight ratio range of 5:95 to 80:20 recited in instant claim 15.

Reference claims 17 and 23 cover an image forming apparatus and a process cartridge, respectively, that meet the structural limitations recited in instant claims 21 and 22. The developing units recited in reference claims 17 and 23 are configured to develop the electrostatic latent image with a toner that is identical to the toner recited in reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Application'247, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner, an image forming apparatus, and a process cartridge that are capable of providing toned images in an electrophotographic process.

The claims of Application'247 do not recite that the toner comprises a colorant as recited in instant claim 1. However, the use of color coloring agents has long been well known in the art. Diamond discloses that the most common colorant for toners is carbon black. Page 168, line 16. Diamond also discloses that "pigments other than black are increasingly playing a role in xerography in two applications. The first is a color to be used in addition to black when there is a desire to highlight

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certain information. Typical colors used for this application are red, blue, green, and brown, made from either a single pigment of a blend of pigments. The other major application is in the creation of full color documents. Here the subtractive set of pigments, cyan, magenta, and yellow, is used." Diamond, page 168, lines 30-36. Diamond discloses that copper phthalocyanine can be used for cyans and blues, azo pigments for yellows, and quinacridones or rhodamines for magentas and reds. Diamond, page 169, lines 1-3.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Application'247 and the teachings in Diamond, to incorporate a colorant as taught by Diamond in the toner rendered obvious over the subject matter claimed in Application'247, because that person would have had a reasonable expectation of successfully obtaining a color or a black toner, an image forming apparatus, and a process cartridge that can be used in an electrophotographic process for forming a black or a color image.

26. Claims 1, 4, 12-17, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 and 24 of

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copending Application No. 10/645,804 (Application'804), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14, in view of Diamond, Handbook of Imaging Materials, pp. 168-169 (Diamond).

Reference claim 16, which depends from reference claim 1, recites a toner comprising toner particles comprising a binder resin, wherein the toner particles have a spindle form. The spindle form meets the toner form limitation recited in instant claim 4. Reference claim 17, which depends on reference claim 16, recites that the toner particle has an average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the ratios recited in instant claim 1. Reference claim 17 does not explicitly recite that  $r_3 \leq r_2 < r_1$ . However, because the ratio  $r_2/r_1 \leq 0.8$  and the ratio  $r_3/r_2 \leq 1.0$ , then  $r_3 \leq r_2$  and  $r_2 < r_1$ . Thus, the parameters recited in reference claim 17 meet the limitation that  $r_3 \leq r_2 < r_1$ . Reference claim 14, which depends on reference claim 1, requires that the toner have a volume average particle size of 3.0 to 8.0  $\mu\text{m}$ , which meets the toner particle size limitation recited in instant claim 4.

The claims of Application'804 do not recite that the toner recited in reference claims 16 and 17 has "such a rolling property as to relatively easily roll in one direction compared

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to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner particles recited in reference claims 16 and 17 have a spindle form that meets the spindle limitations recited in instant claim 4 and the dimension relationships recited in instant claim 1. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner particles recited in reference claims 16 and 17 have the property recited in instant claim 1. The burden is on applicants to prove otherwise.

Fitzgerald, supra.

Reference claim 11, which depend from reference claim 8, which depends in turn from reference claim 1, requires that the binder resin comprise a modified polyester and an un-modified polyester in a weight ratio of 5:95 to 80:20, which meets the binder compositional limitations recited in instant claims 12 and 15. Reference claims 9 and 10, which depend from reference claim 8, recite that the toner is obtained by process steps that meet the process steps recited in instant claims 13 and 14. Reference claim 12, which depends from reference claim 8, further requires that the binder resin have a peak molecular weight of from 1,000 to 10,000, which meets the binder



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limitation recited in instant claim 16. Reference claim 13, which depends from reference claim 8, requires that the toner have a glass transition temperature  $T_g$  of 40 to 70°C, which meets the  $T_g$  range recited in instant claim 17.

Reference claim 24 covers a process cartridge that meets the structural limitations recited in instant claim 22. The developing device recited in reference claim 24 is configured to develop the electrostatic latent image with a developer comprising the toner as recited in reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Application'804, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner and a process cartridge that are capable of providing toned images in an electrophotographic process.

The claims of Application'804 do not recite that the toner comprises a colorant as recited in instant claim 1. However, the use of color coloring agents has long been well known in the art. Diamond discloses that the most common colorant for toners is carbon black, and that color pigments such as cyan, magenta, and yellow pigments can be used to form color toners. The discussion of Diamond in paragraph 25 above is incorporated

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herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Application'804 and the teachings in Diamond, to incorporate a colorant as taught by Diamond in the toner rendered obvious over the subject matter claimed in Application'804, because that person would have had a reasonable expectation of successfully obtaining a color or a black toner and a process cartridge that can be used in an electrophotographic process for forming a black or a color image.

27. Claims 2, 3, 23, 25, and 26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 and 24 of copending Application No. 10/645,804 (Application'804), as evidenced by applicants' admission in the instant specification at page 15, lines 13-14, in view of Diamond, and further in view of Yamashita.

The subject matter recited in the claims of Application'857 in view of the teachings in Diamond renders obvious a toner as described in paragraph 26 above, which is incorporated herein by reference.

The claims of Application'804 do not recite the presence of a charge controlling agent on the surface of the toner particles as recited in instant claims 2, 3, 23, 25, and 26.

Yamashita teaches a low-cost method of fixing a charge controlling agent on the surface of toner particles. Yamashita further discloses the benefits of fixing a charge controlling agent on the surface of toner particles. The discussion of Yamashita in paragraph 13 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Yamashita, to fix a charge controlling agent on the surface of the toner particles rendered obvious over the subject matter claimed in Application'804 combined with the teachings in Diamond in the low-cost method taught by Yamashita, because that person would have had a reasonable expectation of successfully obtaining a toner that comprises the expensive charge control agent in an amount smaller than when the charge controlling agent is dispersed in the toner particles, and that maintains good charge properties even when used for a long time.

28. Claims 10 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

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independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach or suggest toner particles having a "projection . . . present on an end portion of the particles in the major axis direction" as recited in instant claim 10. For example, as discussed supra, JP'494 teaches a toner that comprises ellipsoidal toner particles that meet the dimension limitations recited in instant claim 1. However, JP'494 does not teach or suggest that the its toner particles have such a "projection" as recited in instant claim 10. Nor is there enough evidence on the present record for a person having ordinary skill in the art to reasonably conclude that the toner particles of JP'494 have such a "projection."

The prior art does not teach or suggest toner particles that satisfy the dimensional limitations and the charge quantity recited in instant claim 11.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

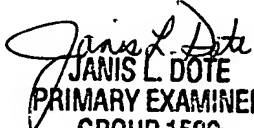
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

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Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD  
May 20, 2005

  
JANIS L. DOTE  
PRIMARY EXAMINER  
GROUP 1500  
1700